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Horsburgh and Cappel: Cognition and Common Sense
**COGNITION AND COMMON SENSE IN
CONTRACT LAW**

Beverly Horsburgh¹ and Andrew Cappel²

INTRODUCTION

In this article, we explore certain aspects of the complex relationship between common sense and formal legal rules of contractual obligation. There is already well established literature, primarily influenced by economic and game theoretic approaches, that has looked at the interaction of formal law with putatively “commonsense” social norms.³ In contrast, we adopt a different approach; one that draws upon the findings of cognitive scientists who investigate the effects of the interaction between internal mental operations and external cultural factors on human thought, reasoning skills and the acquisition of knowledge. Our discussion focuses on the Seventh Circuit’s decision in *Hill v. Gateway*⁴

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³ This literature is voluminous. For an overview, see, e.g., ROBERT C. ELLICKSON, *ORDER WITHOUT LAW* (1991); Amitai Etzioni, *Social Norms: Internalization, Persuasion, and History*, 34 *LAW & SOCIETY REV.* 157 (2000). On contractual norms, see, e.g., Lisa Bernstein, *Merchant Law in a Merchant Court: Rethinking the Code’s Search for Immanent Business Norms*, 144 *U. PA. L. REV.* 1765 (1996).

⁴ In *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147 (7th Cir. 1997), a group of consumers filed a class action lawsuit based on the Racketeer Influenced and Corrupt Organizations Act (RICO) against a computer manufacturer, alleging mail and wire fraud. On appeal, Judge Easterbrook found that the contract was formed when the buyers received the computer, had the opportunity to read a document setting forth the terms of the sale and failed to return the merchandise within the prescribed thirty day period. *Id.* at 1150. Insisting that it made no “sense” to distinguish the case from a previous decision involving the licensing of software (*ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996)), Judge Easterbrook held that the consumers agreed to be bound by the seller’s terms, including a clause requiring the parties to arbitrate all disputes. *Gateway*, *supra* at 1148-49. The Judge also reasoned that as a practical matter, it is a waste of time for telephone operators to inform

Originally Gateway's Document of Standard Terms and Conditions stated that the Rules of Conciliation and Arbitration of the International Chamber of Commerce governed arbitration.⁵ The consumers argued that the forum was unusual and that inasmuch as I.C.C. headquarters were in France, it was difficult to even locate the organization in order to look at its rules.⁶ The cost of arbitration was also prohibitive. A claim for less than \$50,000 required an advance fee of \$4,000, and included a \$2000 nonrefundable registration fee.⁷ Furthermore, the travel costs were disproportionate to the amount of damages sought (\$1000 per customer). The consumers also assumed the risk of paying Gateway's legal costs if they did not prevail in the arbitration hearing.⁸ Even though the court found the arbitration agreement unconscionable because excessive costs prevented the buyers from using the forum and thus, they were deprived of any form of redress, the case was remanded to the Supreme Court for the parties to choose a suitable arbiter. Gateway had previously agreed to arbitrate before the American Arbitration Association,⁹ where the court upheld the enforceability of an arbitration clause in a standard form contract in the context of the sale of computers to customers over the telephone.

Our study reflects four insights that have arisen in the course of cognitive scientists' investigation of the workings of the human mind. First, much of what we understand as "common sense" is not formless and *ad hoc*, but rather, a highly structured method through which the mind processes and organizes certain types of lived experience, and which is deeply rooted in factors such as cognitive efficiency, the impact of our physical bodies on the processes of human reasoning, and the repetitive nature of many of our daily interactions with the physical and social

potential buyers of the terms that apply to mass marketing direct sales contracts. The interests of customers are better served when a simple 30 day approve-or-return clause is used, giving buyers the option of either accepting the terms or shipping the merchandise back to the seller. *Id.* at 1149.

⁵ See *Brower v. Gateway 2000, Inc.*, 676 N.Y.S. 2d 569, 570 (1998).

⁶ *Id.* at 571.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* at 574-75.

world.¹⁰ Second, much of human thought is organized in terms of mental representations (“schemas,” “cultural models,” and “scenarios”) which we use to understand and act upon things and events in the external world. Third, it is very likely that human beings do not process all information in the same fashion, but employ at least two distinct cognitive “styles.” One is a syntactically organized, linear processing style termed “seriosymbolic,” which is best exemplified by formal logic and probability theory. The other cognitive style, “connectionist,” is associative, often imagistic, and organized in a parallel network system; it is best exemplified by the prevalence of metaphor (and other tropes) in human thought. Specifically, what we term “common sense” is the interaction of schematic concepts with connectionist mental architecture, which produces a type of thinking that is markedly different from rule governed, often highly deliberative seriosymbolic thought.

Finally, certain findings from cognitive science strongly suggest that some of our basic moral intuitions may be related to specific features of the interaction between our cognitive faculties and the external physical/social world.¹¹ Moral concepts can thus be seen to have a determinate structure, rooted in the cognitive nature of human beings: the ways we conceive of and encounter the world. Ethical standards arise out of the reality of human experience, and accordingly can be understood without recourse to intuitionism, efficiency analysis, or deontological mysticism. In this article, we are chiefly concerned with contractual unfairness, specifically our cognitive awareness of what constitutes unfair surprise.

We begin this article with an overview of the ways in which we use schemas, cultural models, and scenarios to organize our comprehension of the world, and how these forms of mental representation characteristically interact with seriosymbolic and connectionist processing systems. In the next section, we apply these insights to the particular reasoning

¹⁰ See generally SCOTT ATRAN, *COGNITIVE FOUNDATIONS OF NATURAL HISTORY: TOWARDS AN ANTHROPOLOGY OF SCIENCE* (1996).

¹¹ See, e.g., GEORGE LAKOFF & MARK JOHNSON, *PHILOSOPHY IN THE FLESH* 415-39 (1999); MARK JOHNSON, *MORAL IMAGINATION* (1993).

processes involved in commercial transactions. Specifically we show that while the seller's behavior in a transaction often reflects the seriosymbolic cognitive style of a rational maximizer, consumers use a very different schematic/connectionist model to organize their understanding of the same transaction. This model is derived from our repetitive experiences in daily living, so much so that it is difficult, and in some contexts probably impossible, for consumers to change to an alternative reasoning.

We reserve our descriptive and normative analysis of *Hill v. Gateway* for the concluding section. Here we principally claim that: (i) the court erred by failing to take into account the different cognitive methods of the seller and consumers, and thereby unjustifiably privileged one style (seriosymbolic) at the expense of another widespread, equally valid, form of reasoning; (ii) the cognitive disparity between sellers and consumers in this type of transaction suggests that because consumers tend to rely on a different form of reasoning than sellers in purchasing the items used in daily living, there is a need for legal intervention, including minimally, but not exclusively, a robust notice requirement in standard form contracts that contain unusual provisions such as arbitration clauses¹²; and, (iii) failure to

¹² We recognize that at the present time the state's ability to regulate arbitration terms in contracts between buyers and sellers could well be limited in light of Supreme Court rulings that have greatly expanded the preemptive force of the Federal Arbitration Act over state law. See *Allied-Bruce Terminex Cos. v. Dobson*, 513 U.S. 265, 271 (1995); *Southland Corp. v. Keating*, 465 U.S. 1, 14-15 (1984). Particularly relevant in this context is the Court's holding that a state law requiring prominent notice in order for an arbitration clause to be enforceable was preempted by the F.A.A. See *Doctor's Associates, Inc. v. Casarotto*, 116 S. Ct. 1652, 1656-57 (1996). Other scholars (see, e.g., Richard C. Reuben, *Public Justice: Toward A State Action Theory of Alternative Dispute Resolution*, 85 CALIF. L. REV. 577 (1997); Jean R. Sternlight, *Rethinking The Constitutionality of the Supreme Court's Preference for Binding Arbitration: A Fresh Assessment of Jury Trial, Separation of Powers and Due Process Concerns*, 72 TULANE L. REV. 1 (1997)) have addressed the ramifications of these decisions. Our purpose in this essay is simply to shed some light on problems of a cognitive nature that ensue from imposing arbitration on unsuspecting parties. Obviously, our suggestions on regulating arbitration terms in contracts with consumers should be construed as theoretical, although we believe that our approach is far more sensible and realistic than the Court's approach.

account for this type of cognitive disparity, by enforcing an arbitration clause in a standard form consumer contract, is one important way we define, on an intuitive level, the meaning of contractual unfairness.

We conclude by suggesting that the court's efficiency analysis in *Hill v. Gateway* in and of itself may well be flawed, inasmuch as it does not consider the potential harm that can occur when the essential basis of trust that is necessary for the workings of a commercial society is compromised by sanctioning behavior which is viewed widely, and on a deep cognitive level, as fundamentally unfair.

PART ONE

Schemas, Cultural Models, and Scenarios

Cognitive scientists have long understood that the categories through which our minds organize and interpret inputs from the physical and social world often do not operate according to rules of formal logic, i.e. the definition of a set of necessary and sufficient rules for category membership.¹³ Rather, when it comes to implicit learning and pattern recognition tasks, human beings tend to rely on more informal and flexible units of knowledge termed *schemas*.¹⁴ Functioning as automatic processing and knowledge structuring systems, schemas allow us to divide the world into categories so that objects, events, and environmental interactions are instantaneously distinguished and absorbed.¹⁵ Schemas are highly abstract mental representations that organize a relationship amongst a number of component

¹³ See JOHN H. HOLLAND, KEITH J. HOLYOAK, RICHARD E. NESBITT & PAUL R. THAGARD, *INDUCTION: PROCESSES OF INFERENCE, LEARNING, AND DISCOVERY* 182 (1986). For a recent view concerning the relationship between cognitive/cultural categories and law, see generally ANTHONY G. AMSTERDAM & JEROME BRUNER, *MINDING THE LAW* 19-109 (2000).

¹⁴ See ROY D'ANDRADE, *THE DEVELOPMENT OF COGNITIVE ANTHROPOLOGY* 136, 138-140, 143-45, 178 (1995); CLAUDIA STRAUSS & NAOMI QUINN, *A COGNITIVE THEORY OF CULTURAL MEANING* 53, 58 (1997).

¹⁵ See D'ANDRADE, *supra* note 14, at 142, 144-45; Paul DiMaggio, *Culture and Cognition*, 23 ANN. REV. SOC. 269 (1997).

elements, either images or propositions.¹⁶ For example, the schema of “writing” organizes relations among the writer, the thing written upon, and the writing instrument, etc.¹⁷ Typically, many of the elements contained in a schema are not precisely defined in the schema itself, but rather function as variables (or open “slots”) which allow the schema to function in multiple contexts.¹⁸ These slots are filled in with more concrete detail according to the specific context in which the schema is applied. If contextual information is ambiguous or simply not present, normative expectations (“default values”) about “what goes with what” fill in the empty slots.¹⁹

Simpler schemas are often embedded in a hierarchical structure as components of more complex schemas.²⁰ This process allows us to “chunk” together large amounts of information into a small number of cognitive structures. Such a “chunking” device is believed to be our mind’s response to the limitations on short-term memory, since we can simultaneously retain only a small number of the inputs that are received from sensory perception or from our long-term memory reservoir.²¹ Nearly all that we know about the world is mediated by schematic networks, which on an unconscious level partly select what is observed, determine the ways phenomena are perceived,

¹⁶ See D’ANDRADE, *supra* note 14, at 132, 179; Naomi Quinn & Dorothy Holland, *Culture and Cognition*, in CULTURAL MODELS IN LANGUAGE AND THOUGHT 24-27 (eds. Dorothy Holland & Naomi Quinn, 1987) (discussing proposition and image schemas) [hereinafter CULTURAL MODELS]; PAUL R. THAGARD, MIND: INTRODUCTION TO COGNITIVE SCIENCE 93-105 (1996) (referring to images in human thought).

¹⁷ See D’ANDRADE, *supra* note 14, at 123.

¹⁸ See THAGARD, *supra* note 16, at 61-61, 66. For example, the writing schema does not specify any particular type of writing instrument, which can be, for example, a pen, pencil, or even an airplane (in the case of “skywriting”). D’ANDRADE, *supra* note 14, at 123-24.

¹⁹ See D’ANDRADE, *supra* note 14, at 124; STRAUSS & QUINN, *supra* note 14, at 41; HOLLAND et al., *supra* note 13, at 182-83.

²⁰ For example, the writing schema includes sub-schemas for writing instruments, languages, etc. D’ANDRADE, *supra* note 14, at 121.

²¹ See *id.* at 44-45.

and classify the information that has been conveyed so that the data is easily available for use in daily living.²²

One particularly important group of schemas is grounded in our kinesthetic awareness of our own bodies. According to George Lakoff and Mark Johnson, such awareness in early childhood initiates the formation of spatial bodily image schemas that lend themselves to the creation of metaphors and other kinds of symbolization.²³ Given that bodily experiences recur constantly, every day of our lives, schemata intimately related to the body are inherently meaningful constructs by which we make sense of our non-bodily experiences, communicate with others and they impart a general form to what we observe through our senses and think in our minds.²⁴ Through metaphorical projections, we map the structure of these spatial schemas (the concrete source domain) onto objects, events and concepts (the abstract target domain).²⁵ What makes the connection between the source and the target so powerful is that the metaphor is motivated by the degree to which it correlates with everyday life, particularly insofar as these experiences are rooted in everyday perceptual imagery such as vision and hearing.²⁶ For example, early childhood experiences in learning how to crawl²⁷ lead to the creation of the source-path-goal schema, a primary bodily image structure that involves movement from one location along a path until the final destination of the journey is reached.²⁸

²² See *id.* at 120-22, 136, 179; DAVID I. KERTZER, *RITUAL, POLITICS, AND POWER* 79 (1988); MARK JOHNSON, *THE BODY IN THE MIND: THE BODILY BASIS OF MEANING, IMAGINATION, AND REASON* 18 (1987); GEORGE LAKOFF, *WOMEN, FIRE, AND DANGEROUS THINGS: WHAT CATEGORIES REVEAL ABOUT THE MIND* 6 (1987).

²³ See generally JOHNSON, *supra* note 22; LAKOFF, *supra* note 22; GEORGE LAKOFF & MARK JOHNSON, *METAPHORS WE LIVE BY* (1980).

²⁴ See LAKOFF, *supra* note 22, at 267-68. For a groundbreaking article applying Lakoff and Johnson's metaphor theory to legal analysis, see Steven L. Winter, *Transcendental Nonsense, Metaphoric Reasoning, and the Cognitive Stakes for Law*, 137 U. PA. L. REV. 1107 (1989).

²⁵ See JOHNSON, *supra* note 22, at 112-13; GARY PALMER, *TOWARD A THEORY OF CULTURAL LINGUISTICS* 103 (1996).

²⁶ See LAKOFF, *supra* note 22, at 277-78.

²⁷ See *id.* at 277; JOHNSON, *supra* note 22, at 115.

²⁸ See LAKOFF, *supra* note 22, at 275; JOHNSON, *supra* note 22, at 113.

As noted before, schematic reasoning applies not only to classifying objects, but also events. Consequently, many schemas include an implicit narrative component. Arguably there is at least an inchoate narrative structure to even the simplest schematic unit that contains a causal relationship amongst its constituent element.²⁹ This is certainly true for higher level schemas that represent events in the physical and social worlds. Researchers in artificial intelligence have long noted that due to limits on human cognitive capacity, it is difficult to model human intelligence without recourse to *scripts*, units of thought within the mind that organize our comprehension of the recurring events of everyday life into standardized sequences of events.³⁰

Another source for the ubiquity of narrative in our frequently used schematic structures probably relates to our sensory experiences of space and time. Lakoff has noted how the source-path-goal schema gives rise to a script that denotes a passage through time, entailing an initial state, a sequence of events and a final state.³¹ Throughout life, we have unfulfilled desires and so we envision ourselves as moving in directions that enable us to obtain our objectives.³² If we need apples, we think in terms of leaving our homes, walking or riding to the grocery store, selecting some apples and paying the seller. There is a basic logic to the choice of spatial metaphor:³³ purposes or goals

²⁹ See generally PAUL RICOEUR, *FIGURING THE SACRED: RELIGION, NARRATIVE, AND IMAGINATION* (1995) (kernel of narrative found in any causal relationship of two objects).

³⁰ For the *fons et origo* of script theory in artificial intelligence, see generally ROGER SCHANK & ROBERT ABELSON, *SCRIPTS, PLANS, GOALS, AND UNDERSTANDING* (1977). A well known example given by Schank and Abelson is the "restaurant script," which outlines the prototypical framework of events involved in dining out, for example, being seated, ordering food, paying, etc. For a discussion of such narrative scripts, see Robert A. Randall, *Steps Towards an Ethnosemantics of Verbs: Complex Fishing Technique Scripts and the "Unsaid" in Listener Identification*, in *DIRECTIONS IN COGNITIVE ANTHROPOLOGY*, 249, 252-53 (ed. Janet W.D. Dougherty, 1985); Quinn & Holland, *supra* note 16, at 19-22.

³¹ See LAKOFF, *supra* note 22, at 285-86.

³² See *id.* at 278; JOHNSON, *supra* note 22, at 114.

³³ See LAKOFF, *supra* note 22, at 278.

in life are understood in terms of traveling from a starting point to an endpoint.³⁴

Along with scripts, cognitive anthropologists have identified yet another particularly important type of mental representation that they term a *cultural model*. Cultural models are the presupposed, taken-for-granted models of the world that we employ in order to make sense out of a chaotic universe containing a bewildering multitude of physical and social phenomena. These models generate and reinforce the social meanings given to various objects and events as well as incorporate the ideologies, values, informal norms and rituals of behavior that distinguish a culture and render it unique.³⁵ While some models can incorporate aspects of scientific knowledge or knowledge that is exclusive to a specific profession, many are the repositories of our folk knowledge, our implicit understandings of the way the world works which oftentimes need not be made explicit in our dealings with others.³⁶ A good many of these folk cultural models are widely shared by millions of people who are raised in the same society and are exposed, in some form or other, to the same cultural products (although there are, of course, other alternative models in many subcultures).³⁷ Indeed, culture could not exist without these reality-defining models inasmuch as they frame our understandings of the world.³⁸ Because cultural models are widely shared within a specific

³⁴See *id.* at 275; JOHNSON, *supra* note 22, at 115-117.

³⁵ See Quinn & Holland, *supra* note 16, at 3-4, 11, 22; PALMER, *supra* note 25, at 56, 61-62; STRAUSS & QUINN, *supra* note 14, at 49, 140. These structures of implicit knowledge are a part of what Jack Balkin terms our "cultural software" or "cultural know-how," the traditions, ideas and beliefs that are important to a society and handed down from generation to generation. See J. M. BALKIN, A THEORY OF IDEOLOGY 57, 242 (1998).

³⁶ For an in depth discussion of folk knowledge and folk biology (historical and self-evident beliefs about nature that comport with phenomenological realism and intuition), see ATRAN, *supra* note 10, at 1-2, 67.

³⁷ See STRAUSS & QUINN, *supra* note 14, at 122-23.

³⁸ See *id.* at 154 (stating that models possess "referential transparency" and become "what one sees with, but seldom what one sees"). See also Quinn & Holland, *supra* note 16, at 3, 21-22. The authors explain that models contain what [people] "must know in order to act as they do, make the things they make and interpret their experience in the distinctive way they do." *Id.* at 4.

society, they stabilize the meanings of a multitude of activities, thereby making it possible for individuals to understand each other, at least on some levels of experience.³⁹

Cultural models are composed out of underlying schematic structures, either a single schema or numerous schematic clusters that combine to form intricate pyramids of thought.⁴⁰ In keeping with schemas in general, all-purpose cultural models of wide applicability reduce the total amount of knowledge that must be accumulated for us to function in society, and thus are highly cognitively efficient devices.⁴¹ Also like schemas in general, more basic cultural models often are component elements of other commonly shared models in multiple domains of experience.⁴² Cultural models are also similar to scripts, inasmuch as they typically involve a narrative component that is usually termed a *scenario*.

Cultural models and their associated scenarios also differ in certain ways from the schemas and scripts from which they are composed. Scenarios are not the same as the scripts described in artificial intelligence research, in that their narrative structure is not limited to recurring events that we personally experience in everyday life, but also includes culturally acquired knowledge.⁴³ More fundamental is the distinction between cultural models as mental representations and their underlying schemas. As noted before, viewed strictly from the internal perspective of the mind, schemas are typically highly abstract and generally contain many open slots, thereby making them applicable to many different types of situations. When schemas and scenarios are instantiated as cultural models, reflecting widely shared background cultural knowledge, however, they develop *prototype effects*. Many of

³⁹ See STRAUSS & QUINN, *supra* note 14, at 6-8, 54, 59, 122-23. The authors argue that shared meanings exist to the extent there are domains of common experience. See *id.* at 54, 83-84.

⁴⁰ See D'ANDRADE *supra* note 14, at 151-52, 180. The concept of a cognitive model is further developed in Roy D'Andrade, *A Folk Model of the Mind*, in CULTURAL MODELS, *supra* note 16, at 112-13.

⁴¹ See D'ANDRADE, *supra* note 14, at 34.

⁴² For a discussion on the ways that the elements of various basic models interact with each other, see HOLLAND & QUINN, *supra* note 16, at 34-35.

⁴³ See *id.* at 22.

the open slots are filled in with widely shared cultural assumptions so as to form stock models of behavior.⁴⁴ As two prominent researchers put it, prototypical cultural models “invoke whole worlds in which things work, actors perform, and events unfold in a simplified and wholly expectable manner . . . chained together by shared assumptions about causality.”⁴⁵ Accordingly, the loss in flexibility from purely schematic reasoning is compensated by an increase in intersubjective understandings and ease of communication.⁴⁶ Furthermore, whereas schemas only exist within the mind, cultural models are widely shared and exist to some extent in the social world itself.

The fact that higher level schemas/cultural models are used to reason and plan our actions over a wide range of everyday activities has two further implications. First, many higher level schemas and cultural models are employed *pragmatically*, in connection with concrete reasoning situations. The cognitive strategy concerning which schema/model to apply to a specific decision-making task, as well as the general strategy to employ schematic thinking, in place of more formal reasoning processes like decision theory or mathematical probability, is highly context dependent. We use the schema or model that is most appropriate for the specific problem to be solved, rather than the model or method of reasoning that is most useful in the abstract.⁴⁷ Indeed, experiments suggest that it is difficult, and

⁴⁴ Schematic categories also exhibit a form of prototype effect. See Brian H. Ross & Valerie S. Makin, *Prototype versus Exemplar Models in Cognition*, in *THE NATURE OF COGNITION* 205 (ed. Robert J. Sternberg, 1999) [hereinafter *NATURE OF COGNITION*]. This effect is much stronger, however, in the case of cultural models. See, e.g., D'ANDRADE, *supra* note 14, at 124.

⁴⁵ Quinn & Holland, *supra* note 16, at 20.

⁴⁶ For example, a commonly shared model of marriage allows Americans to meaningfully describe and discuss marriage with one another while retaining sufficient flexibility so as to encompass many different life styles and marriages. See STRAUSS & QUINN, *supra* note 14, at 193-209. On the other hand, due to the prototype effect, in much of our culture a concept like gay marriage would very likely be viewed as outside the category of marriage.

⁴⁷ For example, while a lay speaker is likely at first instance to categorize a piece of furniture as a “chair,” which is a basic level generic of chairs in general, an expert carpenter may intuitively apply specific subcategories: desk chair, kitchen chair, etc. Such pragmatic use of mental categories and

sometimes impossible, to train people to use methods of greater general accuracy if folk “pragmatic reasoning schemas” are effective in the concrete types of reasoning situation that the individual is likely to encounter.⁴⁸ Second, because reasoning is pragmatically context dependent, the social *frame* in which an event takes place or a problem arises can have a great influence over the type of reasoning employed.⁴⁹ The social framing of action and discourse is a ubiquitous feature of human life, and one that has a correspondingly widespread impact on human thought.⁵⁰

Both schemas and culture models vary in the degree to which they can change or adapt to new circumstances. Certain primary level bodily schemas, such as those which organize our sense perceptions, are predominantly unconscious, determinate in structure (few open “slots”), and not susceptible to change.⁵¹ In contrast, complex, higher level schemas vary considerably in their degree of plasticity and openness to change: some are flexible and easy to modify, reflecting the human need to cope with environmental irregularities and unexpected changes in physical or social phenomena; others are relatively rigid and difficult to change.⁵² Cultural models, as social artifacts, in particular must maintain a delicate equilibrium between

reasoning techniques has been extensively studied by researchers of “situated cognition.” See, e.g., Jean Lave, *The Savagery of the Domestic Mind*, in *NAKED SCIENCE: ANTHROPOLOGICAL INQUIRY INTO BOUNDARIES, POWER, AND KNOWLEDGE* 87 (ed. Laura Nader 1996) (pragmatic mathematical reasoning techniques applied to common situations in everyday life); see generally EDWARD HUTCHINS, *COGNITION IN THE WILD* (1994).

⁴⁸ See HOLLAND ET AL., *supra* note 13, at 183 (reviewing experimental evidence).

⁴⁹ Social framing can effect even reasoning based upon formal logic. Thus semanticist Charles Fillmore offered a now classic example: “bachelor” and “unmarried man” are logically tautologous, but do we really think of the Pope as a bachelor? See LAKOFF, *supra* note 22, at 70 (quoting Fillmore).

⁵⁰ See generally, ERVING GOFFMAN, *FRAME ANALYSIS* (1974).

⁵¹ On the rigid and automatic nature of sensory perception, see, e.g., Dennis R. Proffitt, *Inferential versus Ecological Approaches to Perception*, in *NATURE OF COGNITION*, *supra* note 44, at 447.

⁵² See STRAUSS & QUINN, *supra* note 14, at 52-53, 90; D’ANDRADE, *supra* note 14, at 142-43.

adaptability and rigidity. On the one hand, these models must be sufficiently rigid (and therefore have sufficiently determinate meaning), so that the concepts which these models embody can be inter-subjectively comprehensible. As a result, these models tend to resist alteration despite exposure to new information.⁵³ At the same time, these models must also possess sufficient elasticity so as to allow human beings to solve problems, achieve goals and adapt to a number of situations.⁵⁴ The relative adaptability and flexibility of higher level schemas and cultural models, and the ways in which schemas and models become rigidified or malleable, is in great part governed by which type of mental processing the mind employs in a particular problem solving context.

Cognitive Processing Systems

Until this point, we have discussed cognitive schemas, models, and scenarios primarily in terms of categories through which we comprehend objects and events. Implicit in this discussion, however, is the fact that these units are also cognitive processors: dynamic systems that actively organize and structure our experiences in specific ways.⁵⁵ This naturally has given rise to inquiries into how such processing in fact occurs. Cognitivists have proposed two distinct types of mental architecture that may govern the thought process. The first is that reasoning operates by means of *seriosymbolic* processing, a deliberate, rule-based method of thinking and reasoning in which information is coded into abstract symbols that are manipulated sequentially, or in a chain of steps, according to the formal conventions of logic and grammatical syntax.⁵⁶ Reasoning is thereby conceived of as the

⁵³ See D'ANDRADE, *supra* note 14, at 178; STRAUSS & QUINN, *supra* note 14, at 54.

⁵⁴ See D'ANDRADE, *supra* note 14, at 151; Quinn & Holland, *supra* note 16, at 6-7.

⁵⁵ See D'ANDRADE, *supra* note 14, at 136.

⁵⁶ See *id.*, at 137; William Bechtel, *The Case for Connectionism*, in MIND AND COGNITION: AN ANTHOLOGY 153, 156-58, 164 (William G. Lycan ed., 1999) [hereinafter MIND AND COGNITION]; Patricia Smith Churchland &

purely formal manipulation of abstract symbols representing concepts according to a series of logical inferences and rule-governed arrangements.⁵⁷ Seriosymbolic processing can apply at a number of cognitive levels. At the schematic level, the relationship between elements contained within a single schema may operate by means of formal rules, such as if-then propositions.⁵⁸ On a higher level, categories may be combined and manipulated unconsciously according to the syntactical rules of a "language of thought,"⁵⁹ or, on the conscious level, according to formal systems of logic and probability. A key advantage of seriosymbolic processing is that it is cognitively powerful, inasmuch as it can apply to problems in a wide variety of situations.⁶⁰

Such a rule-bound cognitive system (well-suited to the rational actor model of human behavior), however, has been found to apply to only some forms of reasoning and has proven to be an inadequate description of all our mental operations. This approach does not adequately recognize the interplay between reasoning, the culture in which we are situated and our encounters with physical and social phenomena.⁶¹ More fundamentally, seriosymbolic processing cannot adequately account for a number of well documented features that we know are part of the intrinsic structure of human cognition.

Terrence J. Sejnowski, *Neurophilosophy and Connectionism*, in MIND AND COGNITION, *supra* at 133, 138; STRAUSS & QUINN, *supra* note 14, at 51.

⁵⁷ For similar observations, see Churchland & Sejnowski, *supra* note 56, at 138; JOHNSON, *supra* note 22, at xxxiv; STRAUSS & QUINN, *supra* note 14, at 51.

⁵⁸ See HOLLAND ET AL., *supra* note 13, at 92-93 (arguing that categories are composed of "rule clusters"); THAGARD, *supra* note 16, at 62.

⁵⁹ On language of thought theory, see generally JERRY A. FODOR, THE LANGUAGE OF THOUGHT (1975). The most influential theory of this type is Chomsky's theory of a rule-based "deep structure" governing syntax. For a recent defense of this theory, see STEVEN PINKER, THE LANGUAGE INSTINCT: HOW THE MIND CREATES LANGUAGE (1994).

⁶⁰ See THAGARD, *supra* note 16, at 42-57.

⁶¹ An analysis of the gap between this type of reasoning and culture in anthropological studies can be found in D'ANDRADE, *supra* note 14, at 246-47. Johnson also emphasizes the embodied and culturally embedded nature of our understandings of reality. See JOHNSON, *supra* note 22, at 100.

Seriosymbolic processing is, relatively speaking, slow, and therefore inappropriate for certain types of human cognitive activity, including implicit learning, retrieval of information from memory, and pattern recognition.⁶² These tasks take place with enormous speed. Additionally, computer modeling reveals that seriosymbolic systems are inherently brittle; if the input is altered or the task changed slightly, they tend to “crash.” This contrasts with the human cognitive feature of “graceful degradation,” whereby we are able to continue processing information even where some inputs are unclear or missing, and in the face of changes in context or task assignment.⁶³ Additionally, seriosymbolic models cannot adequately explain the human ability to learn. Generally, computer simulations reveal that seriosymbolic systems can be trained to “learn” new facts by a reiterated trial and error based inference process, but only if they are preprogrammed with substantial background knowledge upon which the rules can operate.⁶⁴ For example, a seriosymbolic system can be trained to learn the rule “Address your elders by their last name” only if it already knows the meanings of “elders,” “last name,” etc.⁶⁵ It is precisely this type of background knowledge, however, that tends to be learned implicitly, without recourse to trial and error.

In response to these difficulties, a number of cognitive scientists have proposed an alternate type of processing system within the mind, termed “*connectionist*.” In a connectionist model, mental processing is organized in a network of linked processing units, which – when activated – “fire” in a manner analogous to neurons in the human brain.⁶⁶ In most cases, these “neurons” function simply by receiving excitatory or inhibitory

⁶² See, e.g., D’ANDRADE, *supra* note 14, at 144; MICHAEL R.W. DAWSON, UNDERSTANDING COGNITIVE SCIENCE 37 (1998).

⁶³ See, e.g., STRAUSS & QUINN, *supra* note 14, at 66; DAWSON, *supra* note 62, at 37-38.

⁶⁴ STRAUSS & QUINN, *supra* note 14, at 73-74. Recall that it was this problem that led Schank and Abelson to develop their theory of scripts. See *supra* note 30 and accompanying text.

⁶⁵ See *id.*

⁶⁶ See, e.g., *id.* at 62-70; THAGARD, *supra* note 16, at 122-23; DAWSON, *supra* note 62, at 40-45.

signals from other units. Once they are activated above a certain level, they emit their own excitatory or inhibitory signals to other nearby neurons in the network.⁶⁷ Information is processed by the patterns of firings within the system as a whole. This occurs by means of a process of "spreading activation," whereby activity in one or more neurons spreads across the system through links that connect the neurons to one another.⁶⁸ The ability of one neuron to excite or inhibit another depends upon the strength of the link between them; in general, the strength of such links increases as the same pattern of activation is repeated.⁶⁹ Unlike linear seriosymbolic processing, connectionist networks are linked in parallel, which allows greater speed and flexibility in processing inputs.⁷⁰

Connectionist processing can easily accomplish the sorts of cognitive tasks that are difficult for seriosymbolic systems.⁷¹ In particular, connectionist systems can account for how we acquire cultural information, a learning skill that is so problematic for seriosymbolic processing. In a connectionist system, we internalize implicit cultural knowledge by observing and participating in events of daily life. The inputs derived from these experiences and from our own reactions to these experiences, are processed in a distinctive pattern of network activation. As these patterns of observation and action are repeated, the weights of the connections between activated units become increasingly stronger, until eventually the system solidifies to the point that we almost instantaneously comprehend a situation and how to respond to it.⁷² In this manner, the system can be said to have "learned" meaning and response, without the

⁶⁷ See, e.g., STRAUSS & QUINN, *supra* note 14, at 62-70; DAWSON, *supra* note 62, at 40-45.

⁶⁸ See THAGARD, *supra* note 16, at 62-63, 126.

⁶⁹ See e.g., DAWSON, *supra* note 62, at 62-63; THAGARD, *supra* note 16, at 118-20; STRAUSS & QUINN, *supra* note 14, at 67-70.

⁷⁰ See, e.g., THAGARD, *supra* note 16, at 107-14.

⁷¹ See D'ANDRADE, *supra* note 14, at 139-41, 144; STRAUSS & QUINN, *supra* note 14, at 65-66, 73-73; Steven A. Sloman, *Rational versus Arational Models of Thought*, in NATURE OF COGNITION, *supra* note 44, at 557, 577.

⁷² See STRAUSS & QUINN, *supra* note 14 at 73-76; THAGARD, *supra* note 16, at 118-19.

need for unrealistic amounts of innate (preprogrammed) background knowledge.⁷³

There is substantial debate among cognitive scientists as to whether the fundamental (or at least predominant) mental architecture is seriosymbolic or connectionist. There is a growing consensus, however, that human beings in fact employ both.⁷⁴ In accordance with the pragmatic nature of human cognition, the use of either a seriosymbolic or connectionist system appears to depend to a significant extent upon the specific type and context of reasoning situation. More abstract problems are typically dealt with seriosymbolically, while more concrete problems, particularly problems where a number of subsidiary problems must be resolved in a holistic manner, are addressed by connectionist networks. A commonly made distinction is that seriosymbolic processing is more adept at (and therefore more commonly used in) thought that requires “deliberate conscious control” (solving a complex mathematics problem), while more implicit, background thought generally reflects connectionism.⁷⁵

The fact that we rely on more than one type of cognition has several important implications for the relationship between

⁷³ See STRAUSS & QUINN, *supra* note 14, at 75-76.

⁷⁴ See, e.g., D'ANDRADE, *supra* note 14, at 140-41; STRAUSS & QUINN, *supra* note 14, at 59; THAGARD, *supra* note 16, at 107-26; Sloman, *supra* note 71, at 578. Like seriosymbolic processing, there are certain types of reasoning that connectionist systems are not very good at, particularly complex logical relationships, and where seriosymbolic reasoning is likely to be employed. See D'ANDRADE, *supra* note 14, at 142-43; THAGARD, *supra* note 16, at 112. Even among theorists who argue that cognition employs a rule-based cognitive architecture, there is growing awareness that such a system, in order to account for many facets of human mental activity, must be able to functionally mimic certain aspects of a connectionist system, in particular parallel processing of inputs, spreading activation, and associationist learning. This means that even if seriosymbolic processing is ultimately determined to be the basis of human cognitive activity, the points which we raise in this article in connection with connectionist processing will likely still be valid. See, e.g., THAGARD, *supra* note 16, at 63 (rule-based systems for spreading activation); DAWSON, *supra* note 62, at 194-96 (connectionist networks as “dynamic symbols” within seriosymbolic processing architecture); STRAUSS & QUINN, *supra* note 14, at 61 n.25 (reviewing various proposed connectionist flavored seriosymbolic systems).

⁷⁵ See STRAUSS & QUINN, *supra* note 14, at 57-58.

cognition, culture, and more formalized cultural systems such as law. First of all, there are no rules in connectionist systems, only a set of weights and connections reflecting the repeated application of the same schema to the same types of events occurring in the physical or social world.⁷⁶ Connectionist reasoning is based upon making associations between past and new experiences, often by means of metaphor and analogy.⁷⁷ Consequently, many of the regularities that can be found in social cultural interactions make minimal use of formal rules and maximal use of repeated encounters with specific instances.⁷⁸ Secondly, rule-based (seriosymbolic) learning is typically faster and easier to change than connectionist learning; rules can be learned in a single lesson, while connectionist learning requires time-consuming repeated exposure to similar stimuli.⁷⁹ On the other hand, connectionist based learning of cultural models is faster in application, and more resistant to change, provided that the contexts of its use remain constant.⁸⁰ Finally, even though seriosymbolic reasoning that occurs on the conscious level can override and change well established connectionist-based cultural models, this is often difficult, either because these models are pragmatically useful in a wide variety of contexts, or because connectionist knowledge tends to be implicit.⁸¹ We do not know what we know in much of this domain of thought, and so are unable to bring it under conscious control.

⁷⁶ See D'ANDRADE, *supra* note 14, at 145.

⁷⁷ See STRAUSS & QUINN, *supra* note 14, at 193-209; Naomi Quinn, *The Cultural Basis of Metaphor*, in BEYOND METAPHOR: THE THEORY OF TROPES IN ANTHROPOLOGY 56, 66-67 (James W. Fernandez, ed., 1991); Sloman, *supra* note 71, at 577.

⁷⁸ See D'ANDRADE, *supra* note 14, at 145.

⁷⁹ See *id.* at 144.

⁸⁰ See *id.*

⁸¹ See STRAUSS & QUINN, *supra* note 14, at 57.

PART TWO

Until now, we have considered the question of human cognitive styles in a general way. Now we focus on the key issue: How do consumers understand a commercial sales transaction? Charles Fillmore has identified a cultural model which he terms the “commercial event” model.⁸² Structurally, this model consists of a small number of conceptual elements: a purchaser, a seller, some type of merchandise, a price, perhaps some bargaining, an offer, an acceptance and a transference of the money as well as the ownership of the goods.⁸³ The mind “chunks” together all of these concepts and forms a composite structure that is apprehended holistically, on an immediate intuitive level, even though the modular components are quite complex in themselves.⁸⁴ Thus individuals can quickly decide whether or not an observed event is an instance of the buying model and proceed accordingly, unhampered by the need to engage in an arduous and explicit logical analysis of every single transaction that occurs in daily living. In short, we know how to purchase a bag of apples without employing linear reasoning and memorizing a set of rules. As human beings, we must be able to instantly make use of our mental faculties for classification purposes, and so we depend on our common sense connectionist-based understandings and hold a standard, yet flexible model in our minds in order to participate in the many kinds of transactions that are available in a highly diversified marketplace. In contrast, if forced to turn to strictly seriosymbolic processing, each cognitive task we face in purchasing the items needed in everyday living would take an inordinate amount of time or could not be accomplished at all.

The speed with which we go about our business under the guidance of the commercial transaction model is quite remarkable considering that bargaining is a highly sophisticated form of

⁸² Charles Fillmore, *Topics in Lexical Semantics*, in *CURRENT ISSUES IN LINGUISTIC THEORY* 102-05, 113-14 (ed. Roger W. Cole, 1977).

⁸³ See D'ANDRADE, *supra* note 14, at 45; D'Andrade, *supra* note 40, at 112; Quinn & Holland, *supra* note 16, at 33.

⁸⁴ See D'ANDRADE, *supra* note 14, at 44-45.

communication. The bargaining ritual implicates an understanding of the concepts of a potential buyer and seller, an initial asking price and a set of bids and counterbids which possibly culminate in a final agreement.⁸⁵ Similarly, grasping what is meant by the term ownership requires ascertaining the sort of rights someone holds over something which, in turn, entails knowledge of the abstract political idea of a right and of a social agreement entitling someone to take actions in regard to certain objects without interference from others.⁸⁶ What makes these complicated discriminations possible is having been raised in a particular society in which we are acculturated to think in terms of certain specific kinds of models. Early childhood learning, inculcated by family members and educational institutions, etc., tends to influence us as adults because it is reinforced throughout our lives and rests on the strong neural-like connections that have experientially evolved in our minds.⁸⁷

Specifically, the formation of the commercial event model is brought about through frequent exposure to basic, relatively simple commercial activities: paying doctors and plumbers for their services and purchasing food and other groceries, etc.⁸⁸ These ordinary cognitive tasks are ubiquitous in everyday life.⁸⁹ Note also that one characteristic of all of these instantiations of the commercial event model is that they involve few if any unusual terms, and frequently occur in direct, face-to-face encounters.⁹⁰ Through the media of television, the radio, films, books and magazines, along with the advertisements contained in these cultural transmissions, we are inundated with instantiations

⁸⁵ See D'Andrade, *supra* note 40, at 142; KERTZER, *supra* note 22, at 80; STRAUSS & QUINN, *supra* note 14, at 72-76.

⁸⁶ See D'ANDRADE, *supra* note 14, at 45.

⁸⁷ See STRAUSS & QUINN, *supra* note 14, at 90, 93-96.

⁸⁸ See Quinn & Holland, *supra* note 16, at 21; STRAUSS & QUINN, *supra* note 14, at 125.

⁸⁹ See STRAUSS & QUINN, *supra* note 14, at 125.

⁹⁰ It is worth noting in this context that Fillmore, in developing the commercial transaction schema, made the point that the prototypical commercial schema, as reflected in language usage of American speakers, likewise was a very simple, face-to-face encounter. See Fillmore, *supra* note 82, at 113.

of this prototypical buying model. Since we all constantly engage in or observe such exchanges, the folk model of a commercial transaction has come to be commonly shared,⁹¹ an important facet of our culturally constituted folk knowledge.⁹² Many in the population experience the same patterns of commercial interaction and interpret them in similar ways.⁹³

Like other cultural models, the commercial event model provides a stock mental scenario of the actors and the sequence of events encompassed by a sales transaction. The cultural model of a commercial transaction thus reflects the prototypical type of sale that we frequently encounter in everyday life, with the open slots filled in by default values based upon frequently enacted, highly similar experiences. In keeping with principles of cognitive efficiency and schematic reasoning, this model simplifies the world by invoking just enough schematized information for a person to successfully survive and negotiate in a specific social milieu; it does not include elements that are not normally experienced in commonly repeated, prototypical bargaining situations.⁹⁴ Whenever a buying event is encountered, individuals draw upon their accumulated knowledge to make sense of the event; such an event triggers all schematic units that react to each new event's features; in turn, these units elicit associations with other units, causing them to be activated as well.⁹⁵ If there are changes in circumstances, connectionist

⁹¹ See D'ANDRADE, *supra* note 14, at 179.

⁹² See STRAUSS & QUINN, *supra* note 14, at 123-34 (explaining the "centrifugal" forces that work against shared understandings, as opposed to "centripetal" forces that facilitate the growth of common social meaning structures). Note, however, that specific experiences, details and settings vary, social stratifications are omnipresent and individuals differ in terms of race, gender, ethnicity and status-based classifications.

⁹³ See *id.* at 123-24.

⁹⁴ See D'ANDRADE, *supra* note 14, at 150-51; D'ANDRADE, *supra* note 40, at 112, QUINN & HOLLAND, *supra* note 16, at 32-32; STRAUSS & QUINN, *supra* note 14, at 33.

⁹⁵ See STRAUSS & QUINN, *supra* note 14, at 53. It is important to point out that the precise way in which cognitive forces operate in terms of enabling human beings to form analogies and classification systems is not yet known. For an overview of several theories on this topic, see DiMaggio, *supra* note 15, at 281.

processing of the new information incorporates the new information into the model in terms of its degree of “representativeness,” its similarity to our stock of past experiences.⁹⁶ Thus, every new commercial situation is immediately understood by having learned, beforehand, an entire network of associations between the features of the specific transactions that occurred in the past. New information is assimilated into this pattern.⁹⁷ Consequently, although the model allows us to perform in numerous commercial settings, our perceptual field is largely circumscribed by the schemas that we have already acquired.⁹⁸ Since schemata become more accessible, that is to say, more available for use, if they have been frequently activated by repetitive experiences, new information – in particular, unusual, non-prototypical bargaining events – might well be overlooked if the relevant schemas have not been sufficiently reinforced.⁹⁹ Thus, we often tend to ignore information that is in conflict with pre-established knowledge constructs and to hold onto that which confirms our previous expectations.¹⁰⁰

Inevitably, some of the features of novel buying events are not taken in because there is no schematic framework in which to store them or there are only weak connections between individual schematic units that are not often stimulated.¹⁰¹ While novel information can be taken into account using rule based, seriosymbolic reasoning, this option will often not be available because the association between the cultural model and most everyday types of sales transactions is too salient and pragmatically useful to be overridden. The model is so implicit in our everyday thinking that it simply remains unquestioned.

⁹⁶ See KERTZER, *supra* note 22, at 81; STRAUSS & QUINN, *supra* note 14, at 52.

⁹⁷ See STRAUSS & QUINN, *supra* note 14, at 60.

⁹⁸ See KERTZER, *supra* note 22, at 80.

⁹⁹ See *id.*

¹⁰⁰ See *id.* See also DiMaggio, *supra* note 15, at 269-70; STRAUSS & QUINN, *supra* note 14, at 90-91.

¹⁰¹ See D'ANDRADE, *supra* note 14, at 207. Kertzer explains that a schema's availability is based on how frequently it has been used in the past and its salience in memory. See KERTZER, *supra* note 22, at 80.

The strength of this implicit cultural model is enhanced by the fact that the prototypical sale event model might well be closely linked to our capacity for embodied and imagistic reasoning. The commercial event model is an outgrowth of one of the fundamental, bodily-based root metaphors. Structurally, it is a metaphorical projection of the primary source-path-goal schema.¹⁰² Because the model is deeply rooted in physical experience, its most exemplary form can be understood as similarly involving very simple, physical encounters with sellers such as, for example, the purchase of groceries at the supermarket. This can clearly be seen through simple introspection. Imagine what the term “sale” spontaneously tends to evoke in your mind. Unless you are a formally trained economist, the word “sale” likely brings to mind an associated image of buying groceries or gasoline, along with, quite possibly, a picture of a face-to-face bargaining situation with a seller (for example, at a flea market). To be sure, the model can be extended and the imagery altered so as to include more abstract notions, such as impersonal electronic stock market transactions. But normally this requires a certain amount of conscious effort, of changing cognitive gears, possibly triggered by specific contextual cues (like reading an article about the price of shares in the *Wall Street Journal*).

The social framing of the commercial event also affects the style of reasoning that the parties engage in when it comes to the marketing of consumer products by large producers. As noted before, reasoning processes are highly influenced by the way in which a problem-solving situation is framed. Large commercial enterprises typically attempt to act as rational profit maximizers. In keeping with this goal, processes of planning, production, and marketing are organized along formal, deliberative lines; indeed, such firms typically employ a wide variety of specialists to apply deliberative expertise to the various facets of running the business. As a result, from the seller's perspective, commercial exchanges involve consciously calculated decisions concerning issues such as price, quantity, and contractual terms. Sophisticated sellers are therefore

¹⁰² See LAKOFF, *supra* note 22, at 285-86.

inclined to engage in calculated thinking and to draw on serial symbolic logic in considering what sort of terms should be included in their contracts with buyers. For example, mindful of the possibility of litigation, sellers are likely to draft standard form contracts with an eye towards limiting liability as much as possible. Such deliberative serial symbolic thinking is made possible by the fact that the seller is engaged in only a limited number of types of sales transactions, and has the resources to employ considerable bodies of expert knowledge.¹⁰³

In contrast, consumers must handle a multiple number of different kinds of sales events encountered in daily living, and are limited to the use of their own cognitive faculties. Consequently, they typically make use of connectionist reasoning and build up a prototypical cultural model of sales transactions. The tendency to rely on these models is strengthened by the fact that they are employed on a recurring daily basis and are pragmatically useful in these contexts. Recall, however, that there is a price to pay for such cognitive efficiency. Because the kind of information that is processed must be able to fit within pre-defined abstract knowledge categories, there is a tendency to omit information that is inconsistent with what is already known and to reinforce familiar expectations.¹⁰⁴ Consequently, buyers, who employ a relatively simple cognitive model of sales transactions, are not on an equal footing with sellers and might well overlook unusual terms in their agreements until a dispute arises that causes them to focus on these terms at some later point in time.

We refer to this situation, where parties to a social interaction employ two fundamentally different reasoning styles, as *cognitive disparity*. While some degree of cognitive disparity is probably the inevitable result of the architecture of human cognition and the way in which cognitive processes are distributed in society, it should be obvious that this phenomenon

¹⁰³ This divergence of cognitive styles thus reflects the well-known fact that cognitive resources, like other resources, are unevenly socially distributed within a society. On the social distribution of cognition, *see* D'ANDRADE, *supra* note 14, at 208.

¹⁰⁴ *See* KERTZER. *supra* note 22, at 79.

is deeply problematic in the context of contractual transactions governing mass consumer sales. As lawyers we are well aware that even where parties share an understanding of the basics of a commercial transaction and where the terms of commercial agreements are carefully and deliberately crafted, disagreements over terms and performance obligations still may arise and parties do not always treat each other in conformance with the community's established norms of fairness.¹⁰⁵ Some market actors engage in questionable commercial practices and take unfair advantage of the existing socioeconomic disparities in bargaining power that are implicit in a highly stratified social system in which we are variously situated.

A different but related problem exists where the parties do not in fact understand the commercial event in the same way, and are operating using different cognitive systems. Because consumers are typically the parties who are unable to fully process all aspects of an unfamiliar transaction, more knowledgeable sellers are in the position to exploit another type of disparity: a cognitive disparity in bargaining power. Moreover, it may be difficult (or even impossible) for consumers to overcome this disparity by shifting their thinking in specific contractual situations to the seriousness mode, and away from the connectionist reasoning used in most everyday transactions, especially if they are not given adequate notice of the need to do so. For this reason, exploitation of cognitive disparity appears to be fundamentally unfair on a deep, cognitive level. We explore this issue in Part Three of this article in the context of *Hill v. Gateway*, and offer several suggestions on how to achieve a relative equivalence in bargaining power. In particular, we argue that in these situations there is a need for legal intervention and that the law should acknowledge our widespread intuition that allowing a seller to take advantage of a cognitive disparity is inherently unfair.

¹⁰⁵ I refer to a descriptive meaning of fairness, based on household surveys of public opinion. See, e.g., Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler, *Fairness as a Constraint in Profit Seeking: Entitlements in the Market*, 76 *Am. Econ. Rev.* 4 (1986), reprinted in RICHARD H. THALER, *QUASI RATIONAL ECONOMICS* 199, 200 (1994).

PART THREE

The issue in *Hill v. Gateway* concerned the presence of an arbitration clause in a standard form contract. An arbitration clause is an obvious example of the kind of term that fails to attract attention and is hardly a normative expectation in run-of-the-mill standard form contracts. Although arbitration has become a fixture in some industries,¹⁰⁶ it is not a widespread practice in ordinary sales transactions involving the purchase of household goods. This strongly suggests that consumers seldom encounter an arbitration clause in a sales agreement. On the rare occasion in which arbitration might be included in a contract, buyers, probably, would be taken off-guard. In the absence of past dealings, no schema has been installed in the mind to provide for this contingency and the unfamiliar term would not even be seen. The limitations in our cognitive processing, then, could very well be partly responsible for the buyers' dilemma in *Hill v. Gateway*. In point of fact, because this particular sale involves an expensive and technologically complex piece of equipment, the buying event is relatively unique, one that is outside the experience of a good many individuals. There is so much in the way of new information to process, it would not be surprising if some details are not absorbed.

Under these circumstances, what is really going on in this case is an attempt to take advantage of the consumers' practical common sense knowledge of how sales agreements are usually constructed and to count on the likelihood that they will not be aware of the term and will not object to its inclusion in the contract.¹⁰⁷ The seller is manipulating the buyers' normative expectations as to what sort of terms and norms are typically included in their agreements, and is trading on the inability of

¹⁰⁶ For an overview of the various types of contracts in which arbitration clauses are frequently found, see Reuben, *supra* note 12, at 604-07; Sternlight, *supra* note 12, at 19-39.

¹⁰⁷ In any case, few customers, realistically speaking, will go to the trouble of shipping the goods back to the manufacturer in order to reject the arbitration clause.

individuals to take in all the features that are present in a novel buying event. In so doing, the seller is unfairly profiting from the cognitive inequality in bargaining power. The court, however, did not take into account the divergence in cognitive styles, and wrongly assumed that both parties were using rationalist seriosymbolic reasoning.

Moreover, in failing to acknowledge the use of connectionist reasoning, the court implicitly – and completely unjustifiably – normatively privileged the putatively more “rational,” seriosymbolic thought over the alternative system. In the mind of the judge, there is just one mode of reasoning (seriosymbolic processing) and just one model of human behavior: parties should be mentally prepared and constantly on guard to protect their interests in every bargaining situation. But it should be clear by now that this is nonsense. It is simply not possible given the way our minds really work.¹⁰⁸ Also, the computer industry is a highly competitive market. If there is widespread dissatisfaction, an entrepreneurial firm may seek to enlarge its market share by making it known that there is no mandatory arbitration clause accompanying the sale of its products. Further, game theoretic models suggest companies will be less interested in deviating from prevailing business norms if they intend to develop long-term relationships with their customers, which could lead to repeat sales.

¹⁰⁸ It is possible that if arbitration is adopted by a good many computer manufacturers, the practice will appear normative and our cognitive processes will adjust accordingly. But cognitive models are extremely durable structures and undergo as few changes as possible. Consumer preferences reflected in these models are just as likely to prevent an alteration in a long-established norm and thereby influence commercial practices instead of commercial practices affecting the minds of consumers. Besides, it is not as if consumers are sheep and will accept any and all changes introduced by sellers. Individuals are capable of resisting attempts to establish less in the way of warranties and remedies, etc., if it looks like dealers are taking advantage of them and engaging in predatory practices. We can anticipate that resistance will increase as the cost of sharing information decreases through the use of the internet. Even today, internet communications have facilitated the ability of people to organize and to pressure companies to withdraw from offensive practices. See Thomas Friedman, *Foreign Affairs; Senseless in Seattle II*, N.Y. TIMES, Dec. 8, 1999, at A23.

Schematic, connectionist reasoning must be employed together with seriosymbolic thought in order for human beings successfully to navigate in a sophisticated and highly diversified environment. Neither connectionist nor seriosymbolic thought has *a priori* normative superiority; it is a matter of which is appropriate and commonly used in a particular problem solving context.¹⁰⁹ And that is the core of the problem in *Hill v. Gateway*: both parties are in fact utilizing an appropriate form of reasoning given their different situations. Yet even though the reasoning styles are appropriate, for the court to enforce an unusual term imposed on the buyer by the seller is intuitively believed to be fundamentally unfair.

We have previously suggested that much of our intuitive feeling of unfairness in contractual settings may have its origins in the nature of human cognition. We now flesh out this claim. Experiments have shown that on a deep cognitive level, there are structural frames of reference for deciding on unfairness.¹¹⁰ What we often mean by unfairness is deviation from mental "reference points," consisting of previously experienced buying events that become the benchmarks by which future transactions are judged.¹¹¹ Past encounters with various kinds of sales, which have been integrated into the commercial transaction cultural model, thus generate a set of criteria for defining certain important meanings of unfairness. As such, recurrent marketplace interactions produce codes of conduct (or groups of informal norms) for behavior that constitutes what is "natural" or normal in a given context. These codes of conduct have significant implications for contract law. They allow us to replace vague and impressionistic ideas of unfairness with a more concrete understanding and a more scientifically determinable standard as to how it arises in the course of business dealings.

¹⁰⁹ See, e.g., Sloman, *supra* note 71, at 576-79.

¹¹⁰ See Christine Jolls, Cass Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1496 (1998).

¹¹¹ See *id.* Needless to say, unfairness is recognized through serial symbolic reasoning as well. Consider coercion, the classic gun to the head type of event in which we swiftly engage in a cost/benefit analysis in order to make a decision.

This account is deeply rooted in the fundamental nature of human cognition.

From this perspective, unfairness can be seen as having two basic forms. The first relates to cognitive disparity. As just discussed, any material deviation of contractual terms from the reference points contained in frequently used cultural sales models unfairly takes advantage of the consumer's necessary and appropriate use of a different cognitive style, and in a way that makes it difficult, without notice, for the buyer to be aware of the deviation and to cure the disparity by shifting to a "rational," seriosymbolic mode. Indeed, it may be impossible to effect such a shift in thinking even if notice is given, if the implicit, background information contained in the model is strong enough. The other type of unfairness can be viewed as substantive. Even where notice is given, a contractual term may be viewed as unfair if it departs too far from the typical terms and informal norms included in our common sense models of commercial transactions. For example, if consumers are accustomed to a one year or more warranty on parts and labor on major items, such as cars and appliances, limiting the warranty on a refrigerator to a shorter period of time substantially diverges from the relevant reference transaction, incorporated into the model, and just does not seem fair, even if the warranty comports with formal commercial law regulations.¹¹²

In *Hill v. Gateway*, the inclusion of a mandatory arbitration clause comprises a material deviation from the prototypical terms that are usually included in a sale of goods contract. To consumers, who were not provided with notice of the term, the deviation constitutes the very essence of unfairness.¹¹³ Note that it is not as if mass marketing telephone sales are such a novel way of doing business that normative standards have yet to emerge and become a fixture in the industry. Rather, these transactions are governed by a number of

¹¹² For an explanation of standards of unfairness and the rational actor model of behavior, see *id.* at 1496.

¹¹³ Indeed, since the particular kind of arbitration term imposed on the buyers in *Hill v. Gateway* amounts to an attempt to do away with all forums to redress grievances, the clause in this case borders on fraud.

tacit background assumptions that are deeply embedded in our minds, and when these norms are violated by sellers, it is considered a form of deceit. In this situation, the law must take into account these background assumptions. From a cognitive perspective, then, the decision in *Hill v. Gateway* to uphold the arbitration term is simply irresponsible. The court seriously undervalued the unfairness of imposing arbitration on unsuspecting parties who are unprepared to respond according to the serious symbolic rational actor model and carefully scrutinize all the terms in their sales agreements. The court assumed that consumers should engage in deliberations and carefully consider the consequences of their bargains. Yet in ruling against the need for notice, the judge dispensed with the very means by which this logical and cautious style of thought could ensue.

To avoid unfairness in this context, sellers should, at a minimum, be required to draw attention to unusual provisions, such as arbitration terms in standard form contracts, by providing consumers with notice, either orally or in writing, before the sale actually takes place. If an agreement to arbitrate is sufficiently important to the seller, there is no reason why the term should not be made clear from the onset. Buyers should be alerted to the fact that they are dealing with a contract that departs from the customary sale of goods reference transaction and are thereby in a better position to weigh the degree to which they value the protection of a courtroom proceeding. While notice is not necessarily a cure for unfairness, at a minimum, consumers need to be signaled to change their habitual thought patterns and to switch to the alternative mode of reasoning, serious symbolic processing. Once this occurs, customers are given the opportunity to consciously and carefully deliberate over the purchase and subject the proposal to a cost/benefit analysis, which could lead to a different course of conduct and shopping around to find a better deal.¹¹⁴

¹¹⁴ In this paper, we address the narrow issue of notice because it is the primary focus of the court in *Hill v. Gateway*. Notice of an arbitration term could be helpful in achieving the goal of a relative equivalence in bargaining power if it is conspicuous and given sufficient emphasis. The problem is, however, that regardless of the clarity of notice, consumers might not switch

Further, perhaps any sort of arbitration provision, including a low-cost and meaningful arbitration hearing before an impartial panel of arbitrators, would be considered by many individuals as a threat to our cultural model of justice. Arbitration could convey a different social meaning than what is meant by the phrase of the “right to a day in court.” However, since the scope of this essay is confined to an analysis of Judge Easterbrook’s opinion, I do not address this broader question.¹¹⁵

gears and engage in a more cautious and more deeply reflective form of thought before purchasing the merchandise. Cognitive bias needs to be taken into consideration. If there is a tendency to underestimate the possibility of problems in the future and the need to enforce the term, the signaling device of notice might not have the desired effect and buyers will purchase the item on the basis of a faulty risk assessment. *See, e.g.*, Melvin Aron Eisenberg, *The Limits of Cognition and The Limits of Contract*, 47 STAN. L. REV. 211, 216, 218, 223 (1995). Furthermore, standard form contracts, in particular, require careful deliberation because they are often confusing and obscure. *See id.* at 242. In addition, while an arbitration clause might well be innocuous in agreements between savvy business people who hire lawyers to draw up the terms and employ serial symbolic logic throughout the negotiation process, consumers are hardly in the same position and do not control any of the provisions in the contract. These defects in the bargaining scenario are serious enough to warrant an outright prohibition of arbitration clauses in contracts with consumers.

Moreover, we believe there are especially important reasons for not permitting arbitration in the case at hand. As previously stated, the abstract political concept of individual rights is one of the schemas that is associated with the folk model of a commercial transaction. *See supra* note 86 and accompanying text. The interconnection between this schema and the exchange model strongly suggests this model conceptually relates to our cultural understanding of justice, including, in many cases, the belief in the right to a day in court whenever there is unfair treatment by one’s trading partner. In *Hill v. Gateway*, customers are deprived of access to not only a judicial proceeding, but also to an arbitration hearing. *See supra* note 4. Accordingly, such an onerous clause in a sales transaction might well touch on one of our fundamental political values, integral to our very way of life. Under these circumstances, there is no question as to whether or not the term should be upheld.

¹¹⁵ For other arguments as to why arbitration clauses should be banned in various kinds of contractual situations, *see* Mark A. French, *Hill v. Gateway, 2000, Inc.*, 12 OHIO ST. J. ON DISP. RESOL. 811, 819 (1997) (claiming that a mandatory arbitration provision in a contract with a consumer violates the Magnuson-Moss Act); Reuben, *supra* note 12, at 609 (arguing alternate

Finally, while the judge justified protecting the interests of sellers on grounds of economic efficiency¹¹⁶ (although even here his logic is problematic),¹¹⁷ he failed to realize that there is an interrelationship between cognitive efficiency and economic efficiency. Empirical studies suggest that people care about fairness and tend to act on this conviction.¹¹⁸ Costly litigation arises precisely because a contract is perceived as unfair according to the background model,¹¹⁹ which is a means for ensuring a rapid and efficient transfer of numerous products and for determining the very norms which produce a smoothly functioning economy. To ignore what many in our society believe is unfair is counterproductive. The very stability we count on in our dealings with others is undermined when manufacturers are not required to provide, at the very least, some sort of signaling device informing consumers in advance that the usual conventions associated with a specific type of transaction do not apply. This is all the more true where our feelings of unfairness are deeply held and affectively powerful, because they are rooted in our fundamental cognitive structure. If marketplace exchanges are too often seen as unfair, buyers become insecure and hesitate to enter into sales transactions because the terms and

dispute resolution hearings constitute state action for constitutional purposes); Sternlight, *supra* note 12, at 70, 82 (contending arbitration often violates the right to a jury trial and the right to procedural due process).

¹¹⁶ See *Hill v. Gateway*, 105 F.3d at 1149.

¹¹⁷ Aside from his result-driven and highly manipulative contractual analysis, Judge Easterbrook ignores the buyers' investment in time and expense if forced to ship the goods back to the manufacturer, in order to reject the arbitration term. And, surely, considerations of efficiency dictate that the information costs be borne by the seller, the lowest cost avoider. See, e.g., M. J. Trebilcock, *The Doctrine of Inequality of Bargaining Power*, in *THE ECONOMICS OF CONTRACT LAW* 78, 84 (Anthony J. Kronman & Richard A. Posner, eds., 1979). No rational consumer would be willing to incur the high social costs involved in acquiring information about expensive and complicated merchandise. See *id.* at 84.

¹¹⁸ This finding is discussed in Jolls, Sunstein & Thaler, *supra* note 110, at 1479.

¹¹⁹ Jolls, Sunstein and Thaler point out that legal actions often ensue when consumers believe they are not being treated fairly by firms in the market, regardless of whether or not pursuing an action is in their own financial interest. See *id.*

norms associated with previous commercial arrangements cannot be relied upon to anticipate how to respond to future buying events. Perceptions of unfairness also deplete the stock of social capital¹²⁰ fueling the economy and thereby work against the goal of wealth maximization, which, Judge Easterbrook insisted, should be the court's primary concern.

In summary, given that findings in cognitive science tell us consumers are not always operating according to the seriousness symbolic rational actor model, it is important for the law to be sensitive to the possibility of a cognitive disparity in bargaining power, to be suspicious of standard form contracts including unusual terms and to be more in line with the reasoning processes and standards on unfairness governing actual human behavior in the market. Departures from the prototypical terms or prevailing informal norms in contracts with consumers should either be unenforceable or, at a minimum, clearly highlighted, to inform buyers to alter their customary habits of thought.

CONCLUSION

The scope of our essay is limited to a discussion of two specific forms of unfairness: the exploitation of cognitive disparities in bargaining power and deviations from the commercial transaction cultural model in which past marketplace experiences provide a structural framework for evaluating unfairness. Of course, concentrating on only certain types of unfairness does not rule out other varieties, including unfair discriminatory commercial practices that harm certain social groups. Further, we do not propose that cultural models should always be respected, because some common sense folk models are faulty and rooted in negative stereotypical assumptions about

¹²⁰ A successful economy needs social capital as well as financial capital, and includes such assets as trust and cooperation. These "norms of reciprocity" are built through individuals working together in various civic organizations that encourage an interest in the common good and facilitate a sense of community. See Richard H. Pildes, *The Destruction of Social Capital Through Law*, 144 U. PA. L. REV. 2055, 2066 (1996) (citing ROBERT PUTNAM, *MAKING DEMOCRACY WORK: CIVIC TRADITIONS IN MODERN ITALY* 182 (1993)).

minorities.¹²¹ Moreover, our proposal that common sense standards on unfairness should be formalized in law is neither an attempt to reach some supposedly objective transcendental justice standard, outside the situatedness of human beings, nor is it an effort to reduce the concept to nothing more than a mirror of the status quo, leaving no room for change or expansion. Rather, the idea is to define unfairness in human terms, grounding it in the reality of human behavior as an embodiment of the way we actually reason and function in this world.

We conclude this essay with one final thought. Throughout our lives, we are social beings who depend on each other in countless ways. Even the simplest act of engagement with another human being implicates a degree of trust in that person's intentions and conduct. Respecting widely shared understandings of unfairness that are deeply felt, on an intuitive level, serves to preserve and encourage this sense of trust, without which commerce falters and individuals lack the confidence to bind together to form a workable society.

¹²¹ An indepth analysis of one such model can be found in Beverly Horsburgh, *The Voice of Silence: Cognition, Culture and Racism*, 34 U. SAN FRANCISCO L. REV. (2000) (forthcoming) (claiming a cultural model, based on folk biology, regarding "natural kinds" of human beings, persists in our society and is implicated in our inability to eradicate racism).